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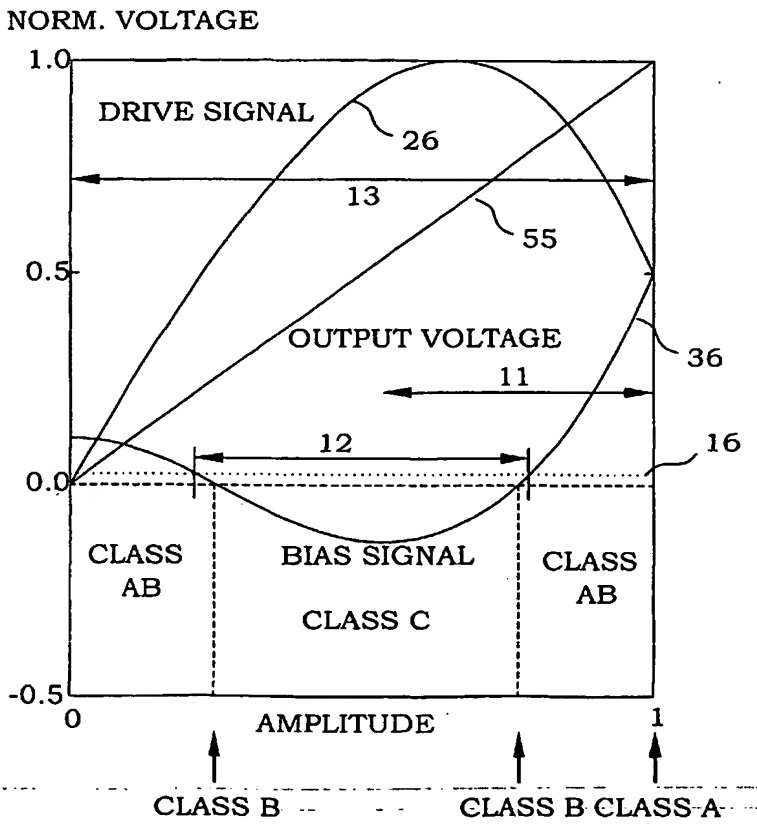
(54) Title: EFFICIENT GENERATION OF RADIO FREQUENCY CURRENTS




(57) Abstract: In the present invention, pre-distortion of drive signal (26) and generation of bias signal (36) to a power amplifier are both controlled dependent on an instantaneous size of the input signal, for producing a predetermined gain characteristics. Preferably, the bias signal (36) is kept low in amplitude ranges having a high probability to occur, thus giving a high efficiency, and is allowed to increase towards higher amplitudes, preferably all the way to the maximum amplitude. The pre-distorted drive signal (26) is preferably higher than the input signal in the high-efficiency ranges. Preferably, the drive signal (26) is predominantly composed of low-order components. In cases where signal paths of bias signal (36) and drive signal (26) differs significantly, inverse filtering is applied to ensure the simultaneousness at he input of the amplitude element.

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